Irrigation Revenue Report of the Bombay Presidency (excluding Sind)

For the Year 1926-27

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IRRIGATION REVENUE REPORT, BOMBAY PRESIDENCY, EXCLUDING SIND, 1926-27

PART I

COMPRISING IRRIGATION WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT

GENERAL REMARKS.

Works in operation. The following list includes all the works completed and in operation (42 in number) :—

Collectorate	Number	Names of Works	Area of four months' crops which could be irrigated in normal years with a duty at the head of the canal of 120 acres for the monsoon season and 120 acres for the rabi season per cusec	Whether supply is reliable or dependent on local rain	Storage works completed or proposed	Remarks
			Acres			
		Productive				
Belgaum ..	1	Gadikeri Tank.	418	Dependent on local rain.	Completed ..	Deccan catchment.
Kanara ..	2	Mavinkop Tank.	617	Do. ..	Do. ..	Forest catchment, reliable.
West Khandesh.	3	Shahada Channel.	2,000	Reliable ..	No storage work.	Hilly catchment. Supply is perennial.
		Unproductive				
Ahmednagar ..	4	Pravara Right Bank Canal.	24,656 for completed canal.	Do. ..	Storage work at Lake Arthur Hill completed.	Ghat catchment.
		Pravara Left Bank Canal.	60,000 (approximate)	Do. ..	Do.	Do.
Nasik ..	5	Girna Left Bank Canal.	Information not available.	Do. ..	Chankapur Tank completed.	Do.
Nasik ..	6	Godavari Left Bank Canal.	21,136	Do. ..	Lake Beale completed.	Do.
Ahmednagar ..		Godavari Right Bank Canal.	35,000 These are projected figures subject to alteration.			

Collectorate	Number	Names of Works	Area of four months' crops which could be irrigated in normal years with a duty at the head of the canal of 120 acres for the monsoon season and 120 acres for the rabi season per cusec	Whether supply is reliable or dependent on local rain	Storage works completed or proposed	Remarks
			Acres			
		Unproductive—contd.				
Poona ..	7	Nira Canal including Shetphal Tank.	100,000	Reliable ..	Lake Whiting completed.	Ghat catchment.
Sholapur ..	8	Mhaswad Tank.	17,975	Dependent on local rain.	Completed ..	Deccan catchment.
Ahmedabad ..	9	Hathmati and Khari Cut Canals.	24,000	Do. ..	No storage work. Bokh reservoir and Chandola tank and Wasai reservoir completed.	The catchment of the Hathmati river is hilly, covered partly with forest and that of Khari is undulating ground at its source and then plain ground with cultivated fields. Supply depends upon the flow in the rivers, and the contents of the Bokh reservoir and the Chandola tank and Wasai reservoir.
West Khandesh.	10	Lower Panjhra River Works.	8,173	Panjhra river supply not reliable.	Mukti tank completed.	Ghat catchment for one part and Deccan catchment for the rest.
Nasik ..	11	Kadwa River Works. Palkhed Canal.	7,228	Reliable ..	Waghad tank completed.	Ghat catchment.
		Ojhar Tambat Canal.	550			
		Wadali Canal.	970	....	No storage proposed.	
Poona ..	12	Mutha Canals including MatobaTank.	49,000	Reliable ..	Lake Fife completed.	Do.
Sholapur ..	13	Ekruk Tank ..	13,070	Dependent on local rain.	Completed ..	Deccan catchment.
Satara ..	14	Krishna Canal.	6,412	Reliable ..	Proposed ..	Ghat catchment.

Collectorate	Number	Names of Works	Area of four months' crops which could be irrigated in normal years with a duty at the head of the canal of 120 acres for the monsoon season and 120 acres for the rabi season per cusec	Whether supply is reliable or dependent on local rain	Storage works completed or proposed	Remarks
			Acres			
		Unproductive—contd.				
Kaira ..	15	Wangroli Tank.	3,400	Dependent on local rain.	Completed ..	Ordinary catchment on plain ground and cultivated fields.
	16	Tranza Nagrama Tanks.	800	Do. ..	Do. ..	The Tranza tank has no independent catchment. The Nagrama tank has a catchment of 1·50 sq. miles. Both are fed by the Matar drainage channel which is not however reliable as it seldom flows.
	17	Savli Tank ..	3,000	Do. ..	Do. ..	Ordinary catchment on undulating ground.
	18	Saiat do.	2,000	Do. ..	Do. ..	Ordinary catchment on flat ground.
Panch Mahals ..	19	Futelao Tank	800	Do. ..	Do. ..	Hilly catchment.
East Khandesh.	20	Hartala do.	978	Do. ..	Do. ..	Deccan catchment.
	21	Mhaswa do.	3,256	Do. ..	Do. ..	Do.
	22	Jamda Canals.	42,000	Girna River supply not reliable.	Storage tanks on the Girna, the Manad and the Panjan Rivers under contemplation. Water is issued from the Chankapur Tank when available.	Ghat catchment for a small part and for the rest Deccan catchment.
Nasik ..	23	Parsul Tank	3,400	Dependent on local rain.	Completed	Deccan catchment.
Ahmednagar ..	24	Bhatodi Tank	1,461	Do. ..	Do. ..	Do.
Poona ..	25	Kasurdi do.	150	Do. ..	Do. ..	Do.
	26	Shirsuphal do.	1,350	Do. ..	Do. ..	Do.
	27	Bhadalvadi do.	1,800	Do. ..	Do. ..	Do.

Collectorate	Number	Names of Works	Area of four months crops which could be irrigated in normal years with a duty at the head of the canal of 120 acres for the monsoon season and 120 acres for the rabi season per cusec	Whether supply is reliable or dependent on local rain	Storage works completed or proposed	Remarks
		Unproductive —concld.	Acres			
Sholapur ..	28	Koregaon Tank.	416	Dependent on local rain.	Completed ..	Hilly catchment.
	29	Ashti do.	3,382	Do. ..	Do. ..	Deccan catchment.
	30	Pathri do.	3,094	Do. ..	Do. ..	Hilly catchment.
Satara ..	31	Rewari Canal	439	Do. ..	*Nil* ..	Deccan catchment.
	32	Upper Man River Works.	373	Do. ..	Pingli Tank completed.	Do.
	33	Yerla River Irrigation Works.	1,182	Do. ..	Nehr do. ..	Do.
	34	Chikhli Canal	355	Do. ..	*Nil* ..	Do.
	35	Maini Tank ..	455	Do. ..	Completed ..	Do. Supply from catchment is good.
Bijapur ..	36	Muchkundi Tank.	750	Do. ..	Do. ..	Deccan catchment.
Belgaum ..	37	Gokak Canal, 1st Section.	17,627	Reliable ..	27 feet completed.	Ghat catchment.
Dharwar ..	38	Dambal Tank	531	Dependent on local rain.	Completed ..	Deccan catchment.
	39	Medleri do.	231	Do. ..	Do. ..	Do.
	40	Madag do.	1,418	Do. ..	Do. ..	Ghat and forest catchment.
	41	Asundi do.	303	Do. ..	Do. ..	Deccan catchment.
	42	DharmaCanal	For monsoon season 6,580 acres. For rabi *nil*.	Do. ..	No storage works but canal takes off from the river itself.	Forest catchment.

Budhihal, Gokak Canal Survey, Victoria Tank and the Suki River Project are not included in this report as they were not in operation in the year under report. The Nira Right Bank Canal has not yet been completed.

Interest Account.

2. The interest account for the year stands as follows :—

	Amount				Amount		
	Productive Works	Unproductive Works	Total		Productive Works	Unproductive Works	Total
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Total interest charges during 1926-27.	5,673	38,59,526	38,65,199	Net Revenue realized during 1926-27.	11,446	14,02,433	15,03,879

Net Loss—Difference between interest and net revenue Rs. 23,61,320.

3. The gross revenue realized from all sources during the year after deducting refunds of revenue (Rs. 5,906) was Rs. 30,34,339 of which Rs. 30,13,919 were direct and Rs. 20,420 indirect receipts. The net revenue actually realized was Rs. 15,03,879. The gross revenue and the net revenue show an increase of Rs. 2,08,648 and Rs. 2,43,253 respectively when compared with the figures for 1925-26.

Area under command and irrigable area.

4. The gross area under command was 1,936,159 acres and the area irrigable at present is 626,919 acres.

5. The financial results of the year by main heads were as follows :—

	Area irrigated	Revenue realised			Working expenses	Net revenue
		Direct receipts	Share of land revenue	Total		
	Acres	Rs.	Rs.	Rs.	Rs.	Rs.
Productive ..	3,044	4,430	10,246	14,676	3,230	11,446
Unproductive ..	269,120	30,09,489	10,174	30,19,663	15,27,230	14,92,433
Total ..	272,164*	30,13,919	20,420	30,34,339	15,30,460	15,03,879

*Includes 8,843 acres on which consolidated water and land assessment is levied.

6. The figures showing area irrigated, revenue assessed and realized and working expenses as compared with those of the previous ten years are as follows :—

Area irrigated, etc.

Year	Area irrigated	Revenue		Working expenses
		Assessment	Realization	
	Acres	Rs.	Rs.	Rs.
1916-17	110,169	15,03,154	16,46,539	7,29,348
1917-18	138,028	17,75,865	15,42,847	7,77,313
1918-19	203,040	22,94,781	12,72,404	8,45,275
1919-20	236,325	17,72,480	19,26,047	8,65,642
1920-21	264,699	24,41,998	22,08,132	9,23,280
1921-22	251,392	24,08,118	25,01,905	11,23,639
1922-23	278,202	26,25,308	25,45,285	10,19,409
1923-24	258,054	28,47,586	24,64,925	11,23,776
1924-25	261,625	28,42,075	26,83,004	14,45,498
1925-26 ..	289,823	31,05,708	28,25,691	15,05,065
Average for ten years ..	220,196	23,61,797	21,76,678	10,41,824
1926-27	263,321	35,61,623	30,34,339	15,30,460

There was a decrease of 26,502 acres in the total area irrigated as compared with the previous year. The variation in each Circle is given below :—

Southern Circle

There was a decrease of 227 acres.

Central Circle

There was a decrease of 4,692 acres. The decrease was due to sufficient and timely rainfall in the kharif season and insufficient supply of water in the rabi season.

Deccan Irrigation Circle

The decrease of 31,203 acres was due to less monsoon and rabi irrigation on ordinary application owing to timely rainfall in the canal tracts.

Northern Circle

There was an increase of 9,620 acres.

7. The state of the collections was as follows :—

	Rs.	Rs.
Balance of demands unrealized at the commencement of the year		11,93,868
Demands of the year—		
Rabi 1925-26	.. 9,52,958	
Kharif 1926-27	..20,90,587	
Miscellaneous receipts ..	.. 3,92,295	
		34,35,840
	Total ..	46,29,708
Deduct—		
Remissions		10,460
	Net total ..	46,19,248
Amount unrealized at the close of the year ..		15,99,423
	Rs.	
Actual receipts of the year ..	30,19,825	
Add—		
Share of land revenue	20,420	
		30,40,245
Deduct—		
Refunds of revenue		5,906
Revenue realized as per paragraphs 3, 5 and 6 ..		30,34,339

The remissions and refunds together amount to Rs. 16,366. The amount unrealized at the close of the year amounted to Rs. 15,99,423 and it exceeds the amount in arrears at the close of the last year by

Rs. 4,50,709. The largest amount was outstanding in the Deccan Irrigation Circle. The total is made up as follows :—

	Rs.
Hathmati and Khari Cut Canals	28,176
Wangroli Tank	2,928
Savli Tank	4,741
Bhatodi Tank	3,424
Ekruk Tank	10,932
Ashti Tank	8,313
Pathri Tank	1,678
Krishna Canal	28,728
Mhaswad Tank	5,026
Gokak Canal 1st Section and Storage Works ..	16,079
Dambal Tank	2,081
Madag Tank	1,358
Dharma Canal	5,135
Kadwa River Works	23,513
Chankapur Tank	1,951
Godavari Canals	6,62,519
Pravara Canals	5,74,456
Parsul Tank	1,332
Mutha Canal including Matoba Tank	16,144
Nira Left Bank Canal and Shetphal Tank	1,81,869
Nira Right Bank Canal	15,502
Other Works	3,538
	15,99,423

A portion of this amount has already been recovered since the close of the year and steps are being taken to recover the balance.

Working expenses.

8. The working expenses for the year amounted to Rs. 15,30,460 against Rs. 15,65,065 in the previous year showing a decrease of Rs. 34,605.

9. The following table contrasts the charges under the principal heads with those of the two previous years :—

	1924-25	1925-26	1926-27
	Rs.	Rs.	Rs.
Works	68,678	55,886	66,376
Repairs	4,55,856	5,33,159	5,26,701
Establishment	6,75,113	7,00,538	8,30,794
Tools and Plant ..	20,079	39,382	13,954
Total in the Public Works Department ..	12,19,726	13,28,965	14,37,825
Collection charges	1,25,886	1,32,135	86,706
Indirect charges	99,886	1,03,965	5,929
Total ..	14,45,498	15,65,065	15,30,460

Details of working expenses.

10. The following table gives the details of the working expenses of some of the principal works :—

Name of work	Average incidence of water rate per acre	Cost of measurement		Working expenses—total in the P. W. D. excluding indirect charges	
		Total cost	Per acre	Per mile of main canal	Per acre irrigated
	Rs.	Rs.	Rs. a. p.	Rs.	Rs.
Pravara Right Bank Canal ..	17·08	1,000	0 0 6	2,635	0·48
Pravara Left Bank Canal ..	21·75				
Girna Left Bank Canal ..	5·02	965½	0 1 5	2,015	3·44
Godavari Canals	18·69	895	0 0 6½	2,730	12·38
Nira Canal and Shetphal Tank ..	14·00	2,257	0 0 7	2,485	3·40
Mutha Canals and Matoba Tank	13·98	1,567	0 1 4	1,848	8·77
Kadwa River Works ..	5·25	297½	0 1 0	2,566	13·01
Gokak Canal 1st Section ..	6·54	2,056	0 2 8	309	1·70
Dharma Canal	5·00	297	0 10 3	62	0·29
Krishna Canal	7·27	980	0 2 4	668	3·39
Yerla River Irrigation Works ..	4·55	700	0 2 3	894	6·12
Rewari Canal	4·41	80	0 2 5	306	2·02
Upper Man River Works ..	4·42	160	0 2 6	415	7·13
Chikhli Canal	3·96	63	0 2 7	117	1·96
Jamda Canals	4·69	95	0 1 6	251	0·41
Mhaswad Tank	7·00	137½	0 0 5	354	4·44
Madag Tank	4·55	4½	....	119	4·66
Ekruk Tank	7·87	86	0 0 4½	407	5·29
Ashti Tank	6·65	65	0 0 3	311	2·03
Maini Tank	3·75	240	0 2 3	581	3·16
Asundi Tank	6·44	....	....	234	3·8

Gross assessed revenue.

11. The gross assessed revenue, direct and indirect, as shown in statement IV-C accompanying the Irrigation Administration Report for 1926-27 was Rs. 35,61,623 against Rs. 31,05,708 of the previous year. The details of the gross assessment were as follows :—

——	Direct revenue			Indirect revenue	Total
	Water rates	Other receipts	Total		
	Rs.	Rs.	Rs.	Rs.	Rs.
Productive ..	6,678	20	6,698	10,246	16,944
Unproductive ..	31,42,230	3,92,275	35,34,505	10,174	35,44,679
Total ..	31,48,908	3,92,295	35,41,203	20,420	35,61,623

12. The net assessed revenue of the year after deducting working expenses, including indirect and other charges, was Rs. 20,31,163 as compared with Rs. 15,40,643 in 1925-26.

Net assessed revenue.

13. The following table shows the percentage return earned on capital outlay on some of the principal works in operation :—

Name of work	Total capital outlay (direct and indirect)	Gross receipts (direct and indirect)	Working expenses (direct and indirect)	Net revenue	Percentage on capital outlay (column 2)
	Rs.	Rs.	Rs.	Rs.	Rs.
Hathmati and Khari Cut Canals..	13,18,729	23,554	59,414	−35,860	....
Lower Panjhra River Works ..	4,68,621	23,261	8,295	14,966	3·19
Krishna Canal	9,49,807	77,179	23,677	53,502	5·63
Gokak Canal	14,68,739	97,464	20,953	76,511	5·21
Kadwa River Works ..	10,35,876	47,112	61,902	−14,790	....
Pravara River Works ..	1,50,36,408	5,40,463	3,03,234	2,37,229	1·58
Godavari Canals	1,03,09,941	4,26,297	3,33,015	93,282	0·90
Mutha Canals including Matoba Tank.	65,50,461	4,48,033	1,62,596	2,85,437	4·36
Nira Left Bank Canal and Shetphal Tank.	1,10,56,697	8,59,292	2,65,403	5,93,889	5·37
Ekruk Tank	13,40,386	1,34,545	19,621	1,14,924	8·57
Ashti Tank	8,41,708	25,240	8,587	16,653	1·98
Mhaswad Tank	20,96,016	62,235	23,458	38,777	1·85
Mainl Tank	4,96,330	16,734	5,406	11,328	2·28
Chankapur Tank	20,56,431	46,324	37,495	8,829	0·43
Shirsuphal Tank	2,24,568	6,874	3,070	3,804	1·69

14. The water rates in force during the year are shown in statement I-F accompanying the Irrigation Administration Report for 1926-27. In the remarks entered in the statement the resolutions sanctioning the water rates are quoted.

Water rates.

15. The average water rates per acre of land actually irrigated were :—

	Rs.
Productive works	2·19
Unproductive works	11·63

16. The water rate assessments and other receipts compare with those of the previous year as under :—

	1925-26	1926-27
	Rs.	Rs.
Water rates	27,29,128	31,48,908
Other receipts—		
Plantations	17,346	19,032
Water power	15,371	14,313
Miscellaneous	3,22,996	3,58,950
Total ..	3,55,713	3,92,295
Share of land revenue	20,867	20,420
Total ..	3,76,580	4,12,715
Grand Total ..	31,05,708	35,61,623

17. The principal crop acreages irrigated during 1925-26 and 1926-27 were as follows :—

Crop acreages.

——	1925-26	1926-27	Difference
	Acres	Acres	Acres
Gardens and orchards	4,243	4,598	355
Sugarcane	36,873	39,753	2,880
Wheat	23,058	17,469	— 5,589
Rice	4,590	9,806	5,216
Maize	5,771	5,077	— 694
Jowar	99,841	86,675	— 13,166
Bajri	29,247	24,006	— 5,241
Gram, etc.	8,638	16,862	8,224
Groundnut	15,352	13,205	— 2,147
Condiments	8,606	7,315	— 1,291
Cotton	5,374	11,049	5,675
Fodder crops	5,959	4,002	— 1,957

The total estimated value is shown as Rs. 4,00,65,186 against Rs. 4,40,15,206 in the previous year and Rs. 4,40,35,626 in the year 1924-25. These estimated crop values are only approximate as there is no uniform method of estimating them.

18. In statement I-E accompanying the Irrigation Administration Report for 1926-27 the duty of water on each work as well as the basis on which the duties were calculated, etc., are shown. The results vary with the nature of the crops irrigated, perennial crops requiring much more water than cereals. To obtain a correct comparative result it is necessary to consider the area of each class of crop grown under the canals concerned. Statement G affords means for such a comparison.

DETAILED REPORTS BY LOCAL OFFICERS

AHMEDABAD AND KAIRA AND PANCH MAHALS DIVISIONS

Works without storage and dependent on local rain

Hathmati and Khari Cut Canals

19. The area irrigated, net assessment, average water rate and working expenses on these canals compare with the average of the three preceding years as under :—

Year	Kharif		Rabi		Total		Average water rate assessed per acre	Working expenses
	Acres	Rs.	Acres	Rs.	Acres	Rs.	Rs.	Rs.
Average ..	2,164	10,372	141	288	2,305	10,660	3·79	36,955
1926-27 ..	5,556	37,187	3,730	7,954	9,286	46,141	4·86	59,414

20. Besides the usual himayat deduction of Rs. 2,372 a remission of Rs. 49 was granted during the year on account of failure of crops due to some disease.

21. The gross revenue realized from all sources amounted to Rs. 23,556. It is less than the working expenses by Rs. 35,858 and shows a loss of 3 per cent. on the total capital outlay exclusive of interest. When the interest charges during the year, *viz.*, Rs. 41,415 are taken into account, the loss works out to 5·8 per cent. of the capital cost of the Hathmati and Khari Cut Canals combined. This result is due to less demand for irrigation owing to abnormal rainfall and due to the water rates for the rabi irrigation not being accounted for in the year under review, as the recoveries were to be effected after March 1927. It is also due to working expenses being high owing to large improvements carried out during the year to the Hathmati Weir.

22. The realizations amounted to Rs. 23,556 against Rs. 47,403 for the last year. The decrease is due to the fact that a large sum of Rs. 36,175 including water rates for the rabi season remained unrealized at the end of March 1927, out of which Rs. 23,677 have since been recovered and are to be accounted for in the year 1927-28. The amount of Rs. 12,498 standing unrealized will be collected during the year 1927-28.

23. The rainfall gauged at Himâtnagar at the head of the Hathmati Canal was 33·42 inches in the kharif and 0·24 inches in the rabi seasons and at Raipur at the head of the Khari Cut Canal it was 51·38 inches during the kharif season only.

Works with storage tanks dependent on local rainfall

24. The area irrigated, net assessment and working expenses under the Wangroli, Savli, Saiat, Tranza Nagramma and Futelao tanks compare with the averages of the previous three years as under :—

Name of tank	Year	Kharif		Rabi		Total		Working expenses
		Acres	Rs.	Acres	Rs.	Acres	Rs.	Rs.
Wangroli ..	Average ..	504	2,249	32	99	536	2,348	8,360
	1926-27 ..	1,000	5,006	997	3,183	1,997	8,189	7,329
Savli ..	Average ..	326	1,115	145	320	471	1,435	5,484
	1926-27 ..	1,495	6,116	1,088	2,332	2,583	8,448	5,643
Saiat ..	Average ..	387	1,397	..	..	387	1,397	4,665
	1926-27 ..	199	786	691	2,563	890	3,349	4,371
Tranza Nagramma.	Average ..	2	5	2	4	4	9	2,478
	1926-27 ..	82	315	76	177	158	492	1,993
Futelao tank ..	Average ..	..	..	37	113	37	113	1,473
	1926-27 ..	..	..	65	162	65	162	1,304

Wangroli Tank

25. The tank filled to its full supply level and the water was utilized in irrigating kharif crop, mainly rice and rabi crops consisting of wheat and gram.

26. The miscellaneous revenue for the tank amounted to Rs. 1,150 against Rs. 2,095 of the previous year. The decrease was due to there being less area open to bed cultivation as the tank was full of water.

27. No remissions were granted during the year.

28. The rainfall gauged at the tank was 42·38 inches.

Savli Tank

29. The tank filled to its full supply level and the replenishment received was utilized in irrigating kharif and rabi crops, consisting mainly of rice and wheat or gram.

30. The miscellaneous revenue for the tank amounted to Rs. 1,462 against Rs. 1,332 of the preceding year.

31. No remissions were granted during the year.

32. The rainfall gauged at the tank was 43·20 inches.

Saiat Tank

33. The tank almost filled to its full supply level and the water was utilised in irrigating kharif crops mainly rice and rabi crops consisting of wheat and gram.

34. The miscellaneous revenue amounted to Rs. 1,109 against Rs. 1,323 of the previous year. The decrease is due to less area being open to bed cultivation as the tank was full of water.

35. No remissions were granted during the year.

36. The rainfall gauged at the tank was 44·77 inches.

Tranza Nagramma Tanks

37. The Tranza tank filled partially and the replenishment was utilized in irrigating the kharif and rabi crops consisting mainly of rice and wheat or gram. There was no irrigation under the Nagramma tank as it was empty.

38. The miscellaneous revenue amounted to Rs. 844 against Rs. 1,360 of the previous year. The reduction in revenue is due to less area being open to bed cultivation as there was water in the tank.

39. No remissions were granted during the year.

40. The rainfall gauged at the Nagramma tank was 45·27 inches; it was about the same at the Tranza tank also.

Futelao Tank

41. The tank received a replenishment of 3·77 million cubic feet against 56 million cubic feet, the total capacity. There was only rabi irrigation on the tank.

42. The miscellaneous revenue amounted to Rs. 125 against Rs. 73 of the previous year.

43. No remissions were granted during the year.

44. The rainfall gauged at the site of the tank was 23·09 inches during the year.

NIRA LEFT BANK CANAL DIVISION

Works with Ghat Storage

Nira Left Bank Canal and Shetphal Tank

45. On the 1st April the level of water in Lake Whiting at Bhatgar was 79·70 feet above the sills of lowest outlets, the corresponding contents being 4,710 million cubic feet. The lowest level recorded was 42·50 feet on the 4th July, the contents being 468 million cubic feet. The water reached the sill of waste-weir (135 feet on gauge) on the 9th August, when the surplus discharge commenced over the spill-ways. The maximum level of water occurred on the 16th August and was 4·30 feet above the sill of the waste-weir. The level of water maintained in the new lake was up to R. L. 377, *i.e.*, 52 feet above the H.F.L. of the old dam. Water could not be impounded up to the F.S.L., *i.e.*, R.L. 385 as the rolling gates in the tank portion were incomplete. The draw-off from the storage, which had ceased on the 4th July owing to the Vir basin having begun to receive sufficient replenishment from the Nira river, was resumed on the 1st October, when the level in the lake was 136 feet, the corresponding contents being 21,438·79 million cubic feet. By the 31st March 1927 the level went down to 101·40 feet on gauge above the sill of under sluices, the corresponding contents being 10,051·26 million cubic feet.

46. The average of the readings of the several rain-gauges in the catchment of the lake (128 square miles in area) was 158·61 inches, and the run-off amounted to 40,410 million cubic feet. The rainfall in the catchment of the lake was satisfactory. In the canal tract it was not sufficient during the months of July and August, when the monsoon crops are most in need of water. But it was quite satisfactory in the rabi season except in the small length up to Pandhara. On the whole the rainfall was good.

47. Water in the Shetphal tank reached its lowest level, *viz.*, 29·45 feet on the 1st June, when replenishment from the Nira Left Bank Canal commenced and the full supply level of 37 feet was reached on the 6th July, the corresponding contents being 572·53 million cubic feet.

48. The designed discharge of the Nira Left Bank Canal at head as originally constructed is 456 cusecs and at tail 91 cusecs. The canal is now being remodelled to enable a larger discharge to be passed through it. The work is in progress and owing to strengthening and raising of the banks at places a much higher discharge was passed through the canal to utilise as much of the extra storage at Bhatgar as possible. The designed discharge of the Shetphal channel is 62 cusecs at head.

49. The subjoined table shows the results of irrigation, revenue, etc., during the year compared with the average of the previous three years :—

Area irrigated		Assessment		Gross assessment		Working expenses		Realizations		Average rainfall of five stations	
1926-27	Average	1926-27	Average	1926-27	Average	1926-27	Average	1926-27	Average	1926-27	Average
Acres	Acres	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches	Inches
78,170	79,647	10,81,331	7,63,953	10,93,193	7,75,178	2,05,403	2,84,467	8,62,258	7,03,708	15.65	14.41

The decrease in the area irrigated is due to fall in the rabi area, there being no demand for rabi water outside rabi leases, the rainfall being satisfactory in the rabi season. The increase in the irrigation revenue and gross assessment is due to increased irrigation of sugarcane area including short term adsalis, which was possible owing to an increased supply being available from the new Lloyd Dam at Bhatgar, and also partly due to enforcement of enhanced water rates on all seasonal crops as well as on perennial blocks.

50. Refunds of revenue amounted to Rs. 784 and remissions to Rs. 118.

51. There are at present 19,624 acres under block agreements on the Nira Left Bank Canal and 1,245 acres on the Shetphal tank. The area of 8 months and rabi leases on the canal was about 26,243 acres and that on the Shetphal tank was 2,761 acres.

52. The cost of the measuring establishment works out to Rs. 2,257 for measuring 62,233 acres out of the total area of 78,170 acres and gives a rate of about 7 pies per acre against 1 anna 2 pies per acre in the previous year. The remaining area of 15,937 acres which was unitised and checked during the previous year was not measured during the year under report.

The Lloyd Dam at Bhatgar and the Nira Right Bank Canal

53. A volume of 5·13 lakhs of cubic feet of masonry was added to the Lloyd Dam during the year, bringing the total done up to date to about 212·46 lakhs of cubic feet and leaving a balance of about 2½ lakhs to be done. The dam is practically completed with the exception of the gaps, where the electrical elevators were erected. The architectural features of the dam comprising minor towers and additional masonry at sluices, brackets, corbelling, etc., are almost completed.

54. The Nira Right Bank Canal, about 106½ miles long, starts from the head-works at Vir in the Poona Collectorate, some 17 miles below Bhatgar and will end near Mohod in the Sholapur Collectorate.

55. The works were started in 1912, and though they passed through various vicissitudes consequent on the war, they have progressed well in more recent years and it was possible to commence irrigation from the new Right Bank Canal during the year 1924-25. During the year under report the area irrigated was 26,558 acres, yielding irrigation revenue of Rs. 1,89,163 and the gross assessed revenue of Rs. 1,89,357, the corresponding figures for the previous year, being 17,825 acres and Rs. 88,917 and Rs. 88,979 respectively.

56. Practically all deep cuttings and high banks up to mile 106½ of the canal have been completed, with the exception of those close to certain masonry works in the Malsiras Division, which are in progress. Nearly all the masonry works down to mile 106½ have been completed or are under construction and arrangements have been made to take the remainder in hand. The progress on distributaries and branches is satisfactory and is in accordance with the programme.

57. The distribution system is being constructed on up-to-date principles and the latest types of measuring devices are being provided at distributary heads and also at frequent intervals on the channels. Improved types of outlets and falls have been introduced, and great care has been taken with regard to the correct discharging capacity and efficiency of all parts of the distribution system. Designs for iron work such as gates have been improved and standardised. These provide arrangements for the rating and locking of all gates and outlet sluices, etc. The whole perennial area under the canal has been carefully surveyed and soil classification carried out before designing channels, while areas unsuitable for perennial crops have been determined and laid down on the maps.

58. The total estimated cost of the scheme is Rs. 4,91,10,860, inclusive of all charges. The estimated cost of works alone is Rs. 3,83,84,335. The expenditure incurred on the works up to the end of the year under report is as under :—

	During the year	Total up to date
	Rs.	Rs.
Lloyd Dam at Bhatgar	4,63,294	1,17,32,879
Nira Right Bank Canal	7,91,230	1,56,61,767
Establishment and Tools and Plant, Suspense account, etc.	5,00,173	71,26,582
Less receipts on capital account	26,706	1,18,557
Total ..	17,27,991	3,44,02,671

59. The Nira Valley Development Project was sanctioned by the Secretary of State for Rs. 6,85,97,828 and contains proposals for remodelling the Nira Left Bank Canal and for constructing a new dam at Vir to supplement the storage in Lake Whiting, should this storage prove to be insufficient when the canals are fully developed. It is hoped that

as a result of experiments on improved methods of distribution carried out by the Special Irrigation Division (which have resulted in startling economies in the use of water) the second part of the project will not be required. Pending the development of the Nira Right Bank Canal the work of remodelling the existing Nira Left Bank Canal has been put in hand, so as to take full advantage of the extra storage at Bhatgar.

MUTHA CANALS DIVISION

Mutha Canals including Matoba Tank

60. On 1st April the level of water in Lake Fife was 18·10 feet above the sill of the canal sluices, the corresponding contents being 1,655·54 million cubic feet. The lowest level, *viz.* 6·30 feet was reached on the 30th June, the contents being 450·01 million cubic feet. Thereafter replenishment commenced, water reaching the crest of the waste weir, 26 feet above sluice sills, on the 6th July. The draw-off from the storage commenced on the 20th October, when water was at its full supply level of 34 feet, the contents being 3,953·51 million cubic feet. On the 31st March 1927, the level was 18·95 feet on the gauge.

61. The average of the readings of the several rain gauges in the catchment of the lake (196 square miles in area) was 126·22 inches, and the run-off amounted to 55,313 million cubic feet. The rainfall in the canal tract was 30·18 inches. Although the monsoon was very late, it was satisfactory both in the catchment and in the canal tract, being well distributed throughout the area. The rabi rains failed almost entirely in the canal tract.

62. The Matoba tank dried up on the 26th March, and remained empty till the 7th June, when it received a small replenishment due to local rainfall. Regular replenishment from the Mutha Right Bank Canal commenced from the 11th July and the tank reached its full supply level of 29 feet on the 28th September, the contents being 216·55 million cubic feet after deducting silt deposit. During the year the tank overflowed once, the overflow lasting for 16 days from the 28th September to 13th October. Water was issued for irrigation of monsoon and rabi crops and the tank finally ran dry on the 12th February 1927.

63. The designed discharges of the Mutha Right and Left Bank Canals at head are 412 and 38·5 cusecs respectively.

64. The following table gives a comparison of the results of irrigation, revenue, etc., during the year with the average of the past three years :—

Area irrigated		Assessment		Gross assessment	
1926-27	Average	1926-27	Average	1926-27	Average
Acres 18,533	Acres 21,114	Rs. 2,59,158	Rs. 2,53,750	Rs. 3,61,718	Rs. 3,52,917

Working expenses		Realizations		Average rainfall of six stations	
1926-27	Average	1926-27	Average	1926-27	Average
Rs. 1,62,596	Rs. 1,53,438	Rs. 4,51,795	Rs. 3,50,789	Inches 19·32	Inches 14·91

An area of 28 acres was indirectly irrigated from the Mutha Left Bank Canal, and the revenue derived therefrom was Rs. 52.

65. The decrease in the area irrigated was due to less monsoon irrigation owing to satisfactory rainfall in the canal tract, which considerably reduced the demand for water for monsoon crops. The increase in the irrigation revenue, and gross assessment and consequently in the realizations, was due to enforcement of revised water rates on all crops excepting sugarcane with effect from the 15th February 1926, and partly to larger receipts from the Poona City Municipality and Poona Water Works owing to increased consumption.

66. Refunds of revenue amounted to Rs. 45. No remissions were sanctioned during the year.

67. The area of 8 months' leases under the Mutha canals and that under the Matoba tank was 377 and 1,696 acres respectively.

68. The cost of the measuring establishment was Rs. 1,567, which gives a rate of about 1 anna 4 pies per acre, the same as in the previous year. Unitisation of areas to be irrigated is being systematically enforced on these canals and as it progresses the cost of measurement may be expected to be gradually reduced.

69. The quantity of water supplied during the year from the Mutha Right Bank Canal to the Poona Cantonment and the Poona City Municipality was 1,011,254,465 and 1,902,586,400 gallons respectively, the corresponding receipts which are included in the statement given above, being Rs. 32,360 and Rs. 60,883 respectively.

Storage Works dependent on local rains

Kasurdi Tank

70. This tank, which had remained empty since 14th October 1925, received its first small replenishment on the 7th June. The tank again dried up on the 17th June and remained so up to the 29th September on which date it received another small replenishment just sufficient to issue one watering to a very small area. The tank finally dried up on the 3rd October. It did not receive any replenishment during the rabi season. The highest level reached was 11·40 feet, the contents being 2·05 million cubic feet, against the F.S.L. of 17·46 feet, the corresponding contents being 7·75 million cubic feet.

Shirsuphal Tank

71. This tank, which had remained empty since 7th January, received its first small replenishment on the 9th June. The tank dried up on the 30th August. It received another replenishment on the 13th September. The highest level reached was 14·40 feet, the contents being 36·47 million cubic feet against 362·05 million cubic feet for the full supply level of 31 feet. Water was issued for irrigation of rabi crops and the tank finally dried up on the 27th December.

Bhadalwadi Tank

72. This tank, which had remained empty since 9th December 1925, received a very meagre replenishment on the 7th June. The highest level reached was 26·60 feet, against the full supply level of 35 feet, the contents at these levels being 68·39 million cubic feet and 184·67 million cubic feet respectively. On the 16th September water was issued for irrigation of monsoon and rabi crops and the tank finally dried up on the 17th December.

73. The sub-joined table shows the results of irrigation, revenue, etc., during the year compared with the average of the past 3 years :—

Name of Tank	Area Irrigated		Assessment		Gross Assessment	
	1926-27	Average	1926-27	Average	1926-27	Average
	Acres	Acres	Rs.	Rs.	Rs.	Rs.
Kasurdi ..	9	39	20	91	410	720
Shirsuphal ..	828	1,152	3,753	5,574	6,443	7,010
Bhadalwadi ..	1,240	881	6,319	2,649	6,697	3,014

Name of Tank	Working expenses		Realizations		Rainfall	
	1926-27	Average	1926-27	Average	1926-27	Average
	Rs.	Rs.	Rs.	Rs.	Inches	Inches
Kasurdi ..	1,036	1,450	514	700	8·85	6·37
Shirsuphal ..	3,070	5,410	6,874	6,484	13·55	11·36
Bhadalwadi ..	3,421	5,844	2,622	3,439	13·80	11·26

The decrease in the area irrigated, irrigation assessment, gross assessment in respect of Shirsuphal tank was due to the fact that the tank received a very meagre replenishment during the kharif season just

sufficient for a very small area. Due to keen competition the right to cultivate the bed of the tank brought in a good sum amounting to Rs. 2,400 which helped to keep up the gross assessment. The increase in the area irrigated under the Bhadalwadi tank and the consequent increase in irrigation assessment and gross assessment was chiefly due to a larger rabi area having been irrigated. As regards Kasurdi tank, the decrease in the area irrigated, irrigation assessment and gross assessment was due to the fact that the tank received very small replenishment just sufficient to issue one watering to a very small area during monsoon season. It did not receive any replenishment during the rabi season and consequently no rabi area was irrigated under the tank.

MALSIRAS DIVISION

Storage Works with Deccan Catchment

Mhasvad Tank

74. Though the catchment of this tank is 480 square miles, the supply is very unsatisfactory owing to the precarious character of the rainfall. At the beginning of the year there was no water in the tank and there was no supply for the kharif season. During the months of September and October there was no good rainfall in the catchment area and the area under command of the canals. There was good rainfall in the month of June and slight replenishment was received in the tank. The tank received a supply of water 22·20 feet in depth before November (*i.e.*, only 1·80 feet below F.S.L.), the contents being 2,296 million cubic feet, and this made it possible to issue water for both rabi and hot weather crops.

75. The average of the several rain-gauge readings in the catchment (480 square miles) was 14·10 inches, and the run-off amounted to 2,476 million cubic feet.

76. The designed discharges of canals Nos. I and II at head are 180·70 and 176·93 cusecs respectively with full supply depth of 4 feet, and the designed discharges at tails of the two canals are 180 and 125·76 cusecs, with 3 and 4 feet as designed depths respectively.

77. The following table shows the results of irrigation, revenue, etc., during the year compared with the average of the past three years :—

Area irrigated		Assessment		Gross assessment	
1926-27	Average	1926-27	Average	1926-27	Average
Acres	Acres	Rs.	Rs.	Rs.	Rs.
5,282	7,694	32,619	48,478	55,288	64,843

Working expenses		Realizations		Rainfall	
1926-27	Average	1926-27	Average	1926-27	Average
Rs. 23,458	Rs. 18,313	Rs. 62,625	Rs. 61,911	Inches 14·10	Inches 10·34

The decrease in the area irrigated, irrigation assessment and gross assessment, was due to the fact that there was no water in the tank during the monsoon season.

78. The refunds of revenue amounted to Rs. 88. There were no remissions.

79. The cost of the measuring establishment was 5 pies per acre against 1 pie per acre in the previous year.

PRAVARA CANALS DIVISION

Works with Ghat Storage

Godavari Canals

80. On the 1st April the level of water in Lake Beale was 40·95 feet above the sill of outlet, the contents being 2,241·90 million cubic feet. The lowest level of water was 5·50 feet above the sill of sluices on the 5th July when the first replenishment was received, and the lake filled to over-flowing on the 10th August. The quantity stored for irrigation was 7,762·90 million cubic feet corresponding to a depth of 65 feet of water. The draw-off for irrigation commenced on the 8th November and the level gradually went down to 47·35 feet above the gauge by the 31st March 1927, the contents being 3,153·30 million cubic feet. Fifteen acres of rabi crops were irrigated on leakage water directly from the lake.

81. The yield from the catchment of the lake (156 square miles) was 31,639 million cubic feet, the average of the several gauge readings being 95·08 inches.

82. The Godavari Right and Left Bank Canals are designed to discharge 384 and 228 cusecs at head, with full supply levels of 7 and 6 feet respectively, and the tail discharges are 114·41 and 35 cusecs with full supply depths of 5 and 3 feet respectively.

83. The following table shows the results of irrigation, revenue, etc., during the year compared with the average of the past three years :—

Name of Work	Area irrigated		Assessment		Gross assessment	
	1926-27	Average	1926-27	Average	1926-27	Average
	Acres	Acres	Rs.	Rs.	Rs.	Rs.
Lake Beale ..	448	403	1,671	1,554		
Godavari Right Bank Canal.	16,641	30,034	3,03,801	3,50,003	5,20,999	5,96,670
Godavari Left Bank Canal.	9,807	15,112	1,90,003	2,13,772		

Name of Work	Working expenses		Realizations		Rainfall	
	1926-27	Average	1926-27	Average	1926-27	Average
	Rs.	Rs.	Rs.	Rs.	Inches	Inches
Lake Beale ..	3,33,015	3,38,891	4,27,701	5,21,500	....	....
Godavari Right Bank Canal.					13·62	18·50
Godavari Left Bank Canal.					13·60	16·35

The decrease in the area irrigated, irrigation assessment and the gross assessment was due to a heavy fall in the area of seasonal crops irrigated in the rabi season owing to timely rainfall in the canal tract.

84. Refunds of revenue sanctioned amounted to Rs. 195 and remissions to Rs. 93.

85. The cost of the measuring establishment amounted to Rs. 895, which works out at 6½ pies per acre, the same as in the previous year.

Pravara River Works

86. The Lake Arthur Hill works, which were started in 1911, have already been completed. The catchment area of the reservoir is 47 square miles, and the whole of the catchment is in the Ghats, which assures a good run-off. The dam which is designed to impound 270 feet depth of water as a maximum is about 1,600 feet long and is constructed across a gorge in the Pravara river valley. At present water to a depth of 260 feet can be impounded which gives a storage of 10,086 million cubic feet. This storage can be increased to 12,092 milion cubic feet with a depth of 270 feet by the construction of automatic gates on the waste weir. The construction of both the Pravara Right and Left Bank Canals has also been completed with the exception of a few buildings for residential purposes for the staff. The completion of the canals has brought about a rapid increase in irrigated areas. A large sugar factory owned by the Belapur Company and situated near Belapur Railway Station started operations in 1921, and the Company's area of sugarcane has risen from 550 acres in 1921-22 to 1,800 acres during the year under report. The concern will eventually have about 2,000 acres under sugarcane every year out of about 7,400 acres of gross area which the Company have acquired. This is a pioneer scheme and the successful manufacture of sugar is of great importance to the large cane growing interests in the Deccan and to the success of the Deccan Canals generally.

87. The designed discharges of the Pravara Right and Left Bank Canals at head are 152·62 and 530·00 cusecs respectively, the full supply levels being 5 and 8 feet; and the designed discharges at tail are 81·79 and 39·00 cusecs respectively, the full supply levels being 3 feet in both cases.

The run-off from the catchment of 47 squares miles was 25,917 million cubic feet, the average of rain gauge readings being 151·86 inches.

88. The lowest level of water in the Wilson Dam was 166 feet above the sill of outlet on the 1st April, the contents being 4,398·46 million cubic feet. The maximum depth of flood above the crest of waste weir was 4·2 feet on the 16th August. Water stopped overflowing on the 9th October. The water level maintained above the sill was 210 feet, representing a volume of 10,086 million cubic feet. The draw-off for irrigation from the storage commenced on the 9th October, and by the 31st March 1927 the level went down to 164·70 feet above the sill of outlet representing a volume of 4,285·60 million cubic feet. The waste weir at Bhandardara is a surplussing weir and no gates have yet been installed there.

89. The results of irrigation, revenue, etc., during the year, compared with the average of the past three years, are as under :—

Name of work	Area irrigated		Assessment		Gross assessment	
	1926-27	Average	1926-27	Average	1926-27	Average
	Acres	Acres	Rs.	Rs.	Rs.	Rs.
Pravara Right Bank Canal.	9,938	14,172	1,69,785	1,50,493	6,59,105	1,57,851
Pravara Left Bank Canal including Lakh Canal.	28,072	28,220	4,79,962	3,67,847		3,73,196

Name of work	Working expenses		Realizations		Rainfall	
	1926-27	Average	1926-27	Average	1926-27	Average
	Rs.	Rs.	Rs.	Rs.	Inches	Inches
Pravara Right Bank Canal.	3,03,304	95,152	5,39,083	1,41,084	13·69	15·54
Pravara Left Bank Canal including Lakh Canal.		1,40,121		2,93,896	14·19	15·78

The decrease in the area irrigated was due to timely rainfall in the area of seasonal crops irrigated by the canals during both the kharif and rabi seasons. The increase in the assessment was due to more area of cane and the increased water rates for seasonal crops recently introduced.

90. Refunds of revenue sanctioned amounted to Rs. 188 and remissions to Rs. 568.

91. The cost of measuring establishment amounted to Rs. 1,000 which gives a rate of 6 pies against 5 pies per acre for the previous year. The reason for high cost is due to the area being scattered in different villages on the Pravara Right Bank Canal and to the high cost of labour in the tract. With the completion of the unitisation of the area under irrigation the cost of measurement is expected to be reduced.

NASIK IRRIGATION DIVISION

Works with Ghat Storage

CHANKAPUR TANK-GIRNA LEFT BANK CANAL

92. The Chankapur tank on the Girna river is the storage for the Girna Left Bank Canal. The tank has been in use since 1909-10. On the 1st April the water level in the storage was 72·80 feet above the sill of the lowest outlet, the corresponding contents being 690 million cubic feet. The level had fallen to 45·80 feet by the 11th July when replenishment began to be received. Thereafter the level gradually rose to 91 feet above the sill of outlet on the 3rd September, the contents being 1,484 million cubic feet, and draw-off from the storage for irrigation purposes commenced on the 25th October. The tank level on the 31st March 1927 was 65·40 feet above the sill of outlet, the corresponding contents being 507 million cubic feet. A portion of the supply was also used for feeding the existing bandharas on the Girna river.

93. The run-off from the catchment of 100 square miles was 2,473 million cubic feet the average of the rain gauge readings being 44·35 inches.

94. The area irrigated in excess of the kayam bagayat during the kharif and rabi seasons under the several bandharas on the Girna river and in its bed was 326 acres and the assessment Rs. 2,013, against 170 acres and Rs. 1,851 respectively for the previous year.

95. A comparison of the irrigation revenue, etc., pertaining to the year under review, with the average of the past three years, is as under:—

Area irrigated		Assessment		Gross assessment	
1926-27	Average	1926-27	Average	1926-27	Average
Acres	Acres	Rs.	Rs.	Rs.	Rs.
10,905	8,292	54,736	48,140	55,910	48,714

Working expenses		Realizations		Rainfall	
1926-27	Average	1926-27	Average	1926-27	Average
Rs.	Rs.	Rs.	Rs.	Inches	Inches
37,495	51,876	46,324	51,813	44·35	47·44

The increase in area and revenue is due to keen demand for water during the monsoon and rabi seasons.

96. The refunds of revenue amounted to Rs. 12 and remissions to Rs. 63.

97. The cost of measuring establishment amounted to Rs. 965½, which gives a rate of 1 anna 5 pies per acre against 1 anna 9 pies per acre for the previous year. The high cost of measurement is partly due to the increased cost of labour and partly to the scattered nature of the irrigation.

Kadwa River Works

98. On the 1st April, the depth of water in the Waghad tank was 27·40 feet above the sill of outlet, the corresponding contents being 161·74 million cubic feet. The level thereafter went down gradually until it reached 18·20 feet above the sill of outlet by the 23rd June, the contents being 69·82 million cubic feet. The tank then began to receive regular replenishment and the height of water continuously rose to 48 feet above the sill of outlet on the 9th August. The maximum depth of flood above the crest of waste weir was 8 feet on the 9th August. The automatic waste-weir gates were finally closed on the 5th August, a depth of 46·40 feet of water above the sill of outlet being maintained, which is equivalent to a volume of 553·49 million cubic feet. The regular draw-off for irrigation from the storage commenced on the 17th October with 47·80 feet depth of water in the tank, representing a volume of 598·93 million cubic feet, and the depth of water fell to 27·50 feet above the sill of outlet on the 31st March, the corresponding contents being 163·04 million cubic feet.

The run-off from the catchment (29 square miles in area) was 3,525 million cubic feet, the average of the rain-gauge readings being 63·14 inches.

99. The sub-joined table shows the results of irrigation, revenue, etc., during the year compared with the average of the past three years :—

	Area irrigated		Assessment		Gross assessment	
	1926-27	Average	1926-27	Average	1926-27	Average
	Acres	Acres	Rs.	Rs.	Rs.	Rs.
Waghad Tank ..	....	....	....	....	44,502	49,756
Palkhed Canal ..	2,573	3,117	22,541	24,881		
Ojhar Tambat Canal. ..	1,107	1,343	9,670	12,323		
Wadali Canal ..	1,078	1,377	8,474	9,899		

	Working expenses		Realizations		Rainfall	
	1926-27	Average	1926-27	Average	1926-27	Average
	Rs.	Rs.	Rs.	Rs.	Inches	Inches
Waghad Tank ..	61,902	35,049	47,112	50,755	63·14	57·05
Palkhed Canal ..						
Ojhar Tambat Canal.						
Wadali Canal ..						

The decrease in the area irrigated, and consequently in the assessment was due to timely rainfall and consequent less demand for canal water.

100. A refund of Re. 1 and a remission of Rs. 8 were sanctioned during the year.

101. The cost of the measuring establishment amounted to Rs. 297½, which gives a rate of one anna per acre, the same as in the last year. The comparatively high cost of measurements per acre is due partly to the increased cost of labour and partly to the scattered nature of the irrigation.

Storage Works with Deccan Catchment

Parsul Tank

102. This small tank depends solely on local rains for its supply, which is generally sufficient for the monsoon and part of the rabi season. On the 1st April, the depth of water in the tank was 9·50 feet above the sill of outlet, the corresponding contents being 14·50 million cubic feet. The tank was completely dry from the 2nd May till 23rd September, when it received its first replenishment and water rose to 24·40 feet, representing a volume of 61·86 million cubic feet. The regular draw-off for irrigation commenced on the 30th August and the tank finally dried up on the 31st December.

103. The following table shows the results of irrigation, revenue, etc., during the year compared with the average of the past three years :—

Area irrigated		Assessment		Gross assessment	
1926-27	Average	1926-27	Average	1926-27	Average
Acres	Acres	Rs.	Rs.	Rs.	Rs.
939	1,062	2,062	4,847	3,081	4,991

Working expenses		Realizations		Rainfall	
1926-27	Average	1926-27	Average	1926-27	Average
Rs.	Rs.	Rs.	Rs.	Inches	Inches
1,992	1,886	3,568	3,703	5·58	15·28

The decrease in the area irrigated, and consequently in assessment is due to scanty rainfall and consequent less supply from the tank.

104. There were neither refunds nor remissions sanctioned during the year.

105. The cost of the measuring establishment was 1 anna and 11 pies per acre as against 1 anna 9 pies per acre for the preceding year, the high rate being due to the high cost of labour in the vicinity of Malegaon, and also due to the scattered nature of the irrigation.

SHOLAPUR DIVISION

Storage Works with Deccan Catchment

106. The areas irrigated, gross assessed revenue and working expenses during the year for the four tanks in the Sholapur Division as compared with the average of the three preceding years are given in the following statement :—

Name of tank	Area irrigated		Gross assessed revenue		Working expenses	
	1926-1927	Average	1926-1927	Average	1926-1927	Average
	Acres	Acres	Rs.	Rs.	Rs.	Rs.
Ekruk .. .	3,602	3,638	1,35,456	1,26,038	19,621	20,712
Koregaon	369	422	2,102	2,480	3,322	3,797
Ashti	4,198	3,732	31,476	26,547	8,587	8,026
Pathri	1,179	1,167	13,070	11,211	3,933	7,473

The increase in the areas irrigated under the Ashti and Pathri tanks was due to sufficient storage being available to meet all the demands during the rabi season while the decrease under the Koregaon tank was due to less demand for water.

107. The increase in the assessed revenue from the Ekruk tank was due to greater consumption of water by the Sholapur Mills while that from the Ashti tank was due to keen demand by irrigators and the extra revenue realized from the sale of the right of removing kekat leaves. The increase under the Pathri tank was due to increased consumption of water by the Barsi Municipality.

Ekruk Tank

108. On 1st April the gauge reading was 31·60 feet the corresponding contents being 1471·93 million cubic feet. Thereafter the level of water went down gradually till it reached 29·43 feet, on 1st June. This level was 7·43 feet higher than the level required to be maintained for the supply to the Mills and the Sholapur Municipality. The tank received a replenishment of 7 feet during the months of August and September. The total storage available on 30th September was 1,882 million cubic feet, the corresponding height being 34·55 feet over the sill of the lowest outlet. The water available was utilized for rabi crops according to the programme approved for the year. It was also used to meet the demands of the Mills and the Municipality. The level of water gradually went down till it reached 29·58 feet on 31st March. The waste-weir did not overflow during the year.

109. The mean rainfall gauged at the five stations in the catchment of 159 square miles from 1st May 1926 to 30th April 1927 was 19·30 inches and the total replenishment received in the tank during the period was 978·88 million cubic feet.

Koregaon Tank

110. On 1st April the level of water in the tank was 0·47 feet over the sill of the outlet. The tank actually went dry on 5th August. On the 6th August a replenishment of 4 feet was received and further replenishment of 13·10 feet was received up to 28th September. Thus a total height of 16 feet of water became available for irrigation on the 15th September, the corresponding contents being 96 million cubic feet. The waste-weir began to overflow from 15th September. The storage was fully utilized for supplying the demands of all the leaseholders during the rabi season.

111. The rainfall gauged at Koregaon from 1st May 1926 to 30th April 1927 was 19·50 inches and the total replenishment received in the tank was 178·06 million cubic feet.

Ashti Tank

112. On 1st April water level in the tank was 15·85 feet over the sill of the outlet. The level gradually went down till it reached 13·63 feet on 1st June. A replenishment of 2·09 feet was received on 2nd July and a further replenishment of 4·29 feet was received in August and September. The total height of water available for irrigation was thus 18·47 feet, the corresponding contents being 962 million cubic feet. The storage was utilized for meeting the demands of rabi leaseholders and eight months' kharif crops subject to certain conditions. The waste-weir did not overflow during the year.

113 The mean rainfall gauged at two stations in the catchment from 1st May 1926 to 30th April 1927 was 20·56 inches and the total replenishment received was 535·40 million cubic feet.

Pathri Tank

114. The level of water in the tank on 1st April was 25·25 feet over the sill of the outlet. Thel evel gradually went down till it reached 22·21 feet on 26th June. On 27th June a replenishment of 0·99 feet was received and a further replenishment of 11·16 feet was received during the months of August and September. The waste-weir began to overflow from 13th September. The water thus available was utilized to meet the demands of rabi leaseholders and for the supply to the Barsi Municipality. The storage at the beginning of the monsoon was not sufficient to meet the demands for the kharif eight months' crops, as the level of water was only 3·12 feet higher than that required to be maintained for the water supply of Barsi town. There was therefore no kharif irrigation on this tank.

115. The mean rainfall guaged at two stations in the catchment area from 1st May 1926 to 30th April 1927 was 27·99 inches and the total replenishment was 510·63 million cubic feet.

AHMEDNAGAR DIVISION

Storage Works with Deccan Catchment

Bhatodi Tank

116. This tank is a small tank situated on the Mehekari river about 12 miles from Ahmednagar with a present capacity of only about 57 million cubic feet reduced on account of silting. It depends entirely on local rains for its supply, which generally suffices for the monsoon and a part of the rabi seasons.

117 The total rainfall during the year was 17·05 inches as against 16·82 the average of the past three years. The tank received its first replenishment on 12th June. The highest level reached was R. L. 93·00 on 12th September. The tank overflowed for only five days and dried up on 16th December.

118. The area irrigated, gross assessment and working expenses as compared with the average of the preceding three years are as under :—

Area irrigated		Total gross assessment		Working expenses	
Average	1926-1927	Average	1926-1927	Average	1926-1927
Acres 875	Acres 499	Rs. 9,703	Rs. 7,390	Rs. 8,384	Rs. 3,894

EAST KHANDESH DIVISION

Works without storage but on rivers with Ghat Catchment

Jamda Canals

119 The source of supply is the Girna river, supplemented from time to time since 1911-12 by water from the Chankapur tank. On 1st April the discharge of the Girna river at Wadgaon above the Jamda bandhara was 26 cusecs which went down to zero on 5th May. The first flood came down the river on 21st June and the highest flood occurred on 2nd September, when the depth of water over the crest of the Jamda weir rose to 2·60 feet.

120. The subjoined statement shows the area irrigated as compared with the average of the preceding three years and the corresponding assessment and working expenses :—

Area irrigated		Gross assessed revenue		Working expenses direct and indirect	
1926-27	Average	1926-27	Average	1926-27	Average
Acres 1,039	Acres 1,129	Rs. 11,435	Rs. 7,402	Rs. 9,839	Rs. 11,371

The decrease in the area irrigated was due to less demand for canal water in the kharif season while the increase in assessment was due to greater demand for canal water in the rabi season for high rated crops.

Storage Works with Deccan Catchment

Hartala Tank

121. On 1st April there was no water in the tank and it continued to be dry till 2nd July. The maximum water level was reached on 16th September, *viz.*, R.L. 84·10 representing a capacity of 19·65 million cubic feet. The rainfall during the year was 20·82 inches against 17·95 inches of the previous year.

Mhaswa Tank

122. On 1st April the water level in the tank stood at R.L. 142·16, the contents being 43·87 million cubic feet. The level went down to R.L. 137·90 (the contents being 19·03 million cubic feet) on 27th June. The first replenishment was received on 28th June. The maximum level was reached on 10th August, when the water in the tank rose to R.L. 151·70 representing the contents of 166·53 million cubic feet, the full supply level being R.L. 152·00. The rainfall was 23·50 inches against 11·50 inches of the previous year.

123 The areas irrigated on the Hartala and Mhaswa tanks as compared with the average of the preceding three years and the corresponding assessment and working expenses are given in the following statement:—

Name of tank	Area irrigated		Gross assessed revenue		Working expenses	
	1926-1927	Average	1926-1927	Average	1926-1927	Average
	Acres	Acres	Rs.	Rs.	Rs.	Rs.
Hartala tank ..	16	8	745	1,303	871	863
Mhaswa tank ..	627	289	4,378	2,150	1,764	1,734

The increase in the area irrigated under the Mhaswa tank was due to great demand for water in the rabi season owing to failure of late rains. On the Hartala tank irrigation was done during the rabi season only.

WEST KHANDESH DIVISION

Works without storage depending on local rain

Shahada Channel

124. The channel is fed by the Gomai river which is perennial. There is no rain-gauge installed at the channel head. The rainfall at Shahada during the year was 23·07 inches.

125. The following table shows the area irrigated, net assessment and working expenses as compared with the average of the preceding three years :—

——	Area irrigated	Assessment	Working expenses
Jirayat—	Acres	Rs.	Rs.
1926-1927	1,043	6,678	2,522
Average	792	4,459	6,988

The area irrigated under the Patasthal Bagait (under settlement) was 1,022 acres and the irrigation share of the assessment was Rs. 6,160.

Works depending on river supply from Ghat Catchment supplemented by a tank with Deccan Catchment

LOWER PANJHRA RIVER WORKS

126. The source of supply of these works is the river Panjhra which is supplemented by the Mukti tank when the supply in the river falls short of requirements.

127. On 1st April the contents of the tank were 135·20 million cubic feet which gradually went down to 47·41 million cubic feet, before the first replenishment was received on 3rd July raising the contents to 61·65 million cubic feet. The maximum of 151·55 million cubic feet was reached on 16th September against 266·87 million cubic feet of the preceding year. It went down to 5·24 million cubic feet by 31st March.

128. The average rainfall gauged in the catchment of the tank at Dahyana and Sadgaon was 15·03 inches.

129. The following table shows the area irrigated, the assessment and the working expenses as compared with the average of the preceding three years :—

Area irrigated		Gross assessment		Working expenses	
1926-1927	Average	1926-1927	Average	1926-1927	Average
Acres	Acres	Rs.	Rs.	Rs.	Rs.
2,086	2,527	23,604	24,792	8,295	4,444

SATARA DIVISION

130. The area irrigated, gross assessment and working expenses for the six works mentioned below as compared with the averages of the preceding three years are given in the following statement:—

Name of work	Area irrigated		Gross assessed revenue		Working expenses	
	1926-1927	Average	1926-1927	Average	1926-1927	Average
	Acres	Acres	Rs.	Rs.	Rs.	Rs.
1. Krishna Canal.	6,938	10,365	50,788	77,748	28,677	26,031
2. Rewari Canal.	523	224	2,451	1,553	1,539	3,061
3. Upper Man River Works.	1,019	442	4,633	2,634	7,312	10,120
4. Yerla River Irrigation Works	4,864	5,784	22,845	26,034	20,953	18,823
5. Chikhli Canal.	389	437	1,594	1,465	767	940
6. Maini Tank	1,701	2,116	6,734	11,544	5,400	4,959

The decrease in the area irrigated under the Krishna canal, Yerla River Irrigation works and Maini tank was due to sufficient and timely rainfall in the kharif season and an insufficient supply of water in the hot season of 1926. The increase under the Rewari canal and Upper Man River works was due to sufficient supply of water being available for the rabi season, when there was a keen demand for water owing to the failure of late rains. The increase in assessment on the Chikhli canal was due to a larger area being irrigated in the rabi season (owing to the failure of late rains) and to there being a sufficient supply of water in the river.

River Supply with Ghat Catchment

Krishna Canal

131. The rainfall gauged at Retre Budruk was 30·59 inches against 18·89 inches the average of the past five years. The rainfal during the monsoon was very good which helped to provide a better supply in the canal both during the rabi and the hot season.

Works with Deccan Catchment

Rewari Canal

132. The rainfall gauged at Rewari was 25·61 inches against 22·26 inches the average of the past five years.

133. The supply of water in April was nil. Replenishment took place from July to September and began to go down from October to end of March. Water was supplied to the irrigators by rotation and the arrangement worked quite satisfactorily.

Upper Man River Works

134. The rainfall gauged at Gondowla was 13·41 inches against 13·69 inches the average of the past five years.

135 On 1st April the Pingli tank was dry. The first replenishment of 15 million cubic feet was received on 24th June 1926. But this supply was lost by evaporation and absorption and the tank ran dry again from 31st August to 11th September. Second replenishment of 7·43 million cubic feet was received on 12th September. From that date the water gradually increased till it stood at R.L. 2365·11, equivalent to 77·78 million cubic feet on 9th October which was the highest level reached. Again from 21st December to the end of March the tank was dry.

Yerla River Irrigation Works

136. The total rainfall gauged at Khatgaon was 20·45 inches against 19·47 inches the average of the past five years.

137. There was no water in the Nehr tank on 1st April. The first replenishment was received on 10th June when the level was R.L. 2643·62 equivalent to 12·56 million cubic feet. From that time the water level gradually increased till it reached R.L. 2650·32 on 11th September, equivalent to 78·45 million cubic feet. The second replenishment was received on 13th September when the water stood at R.L. 2658·32 equivalent to 217·09 million cubic feet. A substantial replenishment was again received on 30th September. This time the water level reached the F.S.L. 2666·02, equivalent to 406·80 million cubic feet, and on 4th October water overflowed the waste-weir for 10 hours. From the next day the tank level began to fall and on 31st March there were left only 90·62 million cubic feet of water.

Chikhli Canal

138. The rainfall gauged at Chikhli was 14·93 inches against 14·93 inches the average of the past five years.

139. There was no flow in the river at the head of the weir from 1st April to 21st May. On 27th June a flood, 9 feet in height was received and this was the highest flood received during the year under report. Another flood was received on 23rd June, but this was only 3 feet high. There was no flow in the river from 15th February to end of March.

Maini Tank

140. The rainfall gauged at Maini was 20·72 inches against 14·38 inches, the average of the past five years.

141. The year opened with no storage in the tank. The first replenishment was received on 25th June, which increased the water level to R.L. 2299·87 equivalent to 15·520 million cubic feet. From that time the level gradually increased till the tank was full on 12th September. The water in the tank flowed over the waste-weir by about 0·12 feet, till 18th September, and again from 26th September to 29th October by about 0·12 feet. The tank went dry on 28th December.

BIJAPUR DIVISION

Deccan Catchment

Muchkundi Tank

142. The Muchkundi tank is the only first class irrigation work in the Bijapur Division. It depends solely on local rains. The supply in the tank is unreliable owing to the smallness of the catchment area and the precarious rainfall. The tank was dry at the beginning of the year but it received some replenishments at intervals, the highest being on 15th September when the water was at R. L. 1,788·29. It went dry on 19th September and remained so till the end of the year.

143. There was no irrigation under this tank during the year as the rainfall was scanty and water was not available for irrigation. The miscellaneous receipts were Rs. 1,510 against Rs. 243 of the previous year. The increase is due to realizations on account of sale of water. The total assessment for the year was nil while the working expenses amounted to Rs. 3,155 which was a net loss during the year.

DHARWAR IRRIGATION DIVISION

Deccan Catchment

Gadikeri Tank

144. The lands under this tank are assessed at consolidated rates. The area irrigated during the year and the irrigation share of the land revenue were 407 acres and Rs. 2,356 respectively. There were no miscellaneous receipts. The working expenses amounted to Rs. 384. The result of the year's operations was a net profit of Rs. 1,972 which is equivalent to 11·07 per cent. on the capital cost of Rs. 16,918.

Ghat Catchment

Gokak Canal

145. The area irrigated and assessment during the year were respectively 12,244 acres and Rs. 80,136 against 11,854 acres and Rs. 76,728 of the previous year and 11,427 acres and Rs. 62,762, the corresponding average of the past three years. The increase in assessment as compared with the figures of the previous year as well as the average is due to a larger area being brought under rabi cultivation on account of the temporary raising of the crest by 4 feet.

146. The miscellaneous receipts amounted to Rs. 20,765 against Rs. 20,379 of the previous year. The gross assessment was Rs. 1,00,848 against Rs. 97,107 of the previous year and Rs. 81,937, the average of the past three years.

147. The working expenses during the year amounted to Rs. 20,953 against Rs. 18,870 of the previous year and Rs. 18,271, the average of the past three years. The operations of the year resulted in a net profit of Rs. 79,895 giving a return of 5·44 per cent. on the capital cost of Rs. 14,68,739.

Deccan Catchment

Dambal Tank

148. The lands under this tank are assessed partly at consolidated rates and partly at water rates. The area irrigated and the assessment were respectively 11 acres and Rs. 89 as compared with 554 acres and Rs. 2,397 of the previous year and 534 acres and Rs. 2,645, the average of the past three years. The decrease in area and assessment is due to absence of water in the tank for irrigation after meeting the requirements of the area under consolidated assessment.

149. The irrigated area assessed at consolidated rates was 144 acres and the irrigation share of the land revenue was Rs. 916 giving an average water rate of Rs. 6·36 per acre.

150. The total assessed revenue, including miscellaneous receipts (Rs. 2,975) amounted to Rs. 3,980 against Rs. 3,960 of the previous year and Rs. 3,484, the average of the past three years.

151. The working expenses of the year amounted to Rs. 678 against Rs. 805 of the previous year and Rs. 1,035 the average of the past three years. The net result of the year's working was a profit of Rs. 3,302 which gives a return of 4·93 per cent. on the capital outlay of Rs. 63,980.

Medleri Tank

152. The area irrigated and the assessment were respectively 35 acres and Rs. 523 against 64 acres and Rs. 681 of the previous year and 66 acres and Rs. 703, the average of the past three years. The decrease both in area and assessment was due to scanty supply of water in the tank.

153. The total assessed revenue, including miscellaneous receipts (Rs. 251) was Rs. 774. The working expenses amounted to Rs. 2,566 against Rs. 995 of the previous year and Rs. 1,087, the average of the past three years. The result of the year's working was a loss of Rs. 1,792. This is due to abnormal increase in the working expenses on account of special repairs to the extent of Rs. 544.

Ghat Catchment

Madag Tank

154. The area irrigated and assessment were respectively 423 acres and Rs. 1,923 against 493 acres and Rs. 2,204 of the previous year and 619 acres and Rs. 3,010, the average of the past three years. The total assessed revenue including the miscellaneous receipts (Rs. 223) amounted

to Rs. 2,146 against Rs. 2,629 of the previous year and Rs. 3,416, the average of the past three years. The decrease both in area and assessment is due partly to seasonal rains and partly to the apathy of the rayats to take water for sugarcane cultivation on account of recent increase in water rate for this crop. Cultivation of low rated crops also accounts for the decrease to some extent.

155. The working expenses amounted to Rs. 1,981 against Rs. 1,987 of the previous year and Rs. 2,258, the average of the past three years. The result of the year's operations was a profit of Rs. 165 which is equivalent to 0·98 per cent. on the capital outlay of Rs. 1,67,598.

Deccan Catchment

Asundi Tank

156. The lands under this tank are assessed partly at consolidated rates and partly at water rates. The unconsolidated area irrigated and the water rates assessed were 128 acres and Rs. 824 respectively against 92 acres and Rs. 664 of the previous year and 275 acres and Rs. 1,287, the average of the past three years. The area of the land assessed at consolidated rates was 190 acres and the irrigation share of the land revenue was Rs. 687, *i.e.*, Rs. 3·62 per acre.

157. The total assessed revenue including miscellaneous receipts (Rs. 25) was Rs. 1,536 against Rs. 1,530 of the previous year and Rs. 1,361, the average of the past three years.

158. The working expenses of the year amounted to Rs. 1,229 against Rs. 1,227 of the previous year and Rs. 1,267, the average of the past three years. The operations of the year have resulted in a net profit of Rs. 307, giving a return of 0·41 per cent. on the capital outlay of Rs. 74,995.

Forest Catchment

Mavinkop Tank

159. The whole of the irrigated area (572 acres) is assessed at consolidated rates. The irrigation share of the land revenue was Rs. 1,730 against Rs. 1,173 of the previous year giving a rate of Rs. 3·02 per acre.

160. The working expenses were Rs. 324 against Rs. 268 of the previous year and Rs. 447, the average of the past three years. The operations of the year resulted in a profit of Rs. 1,406 or 4·20 per cent. on the capital cost of Rs. 33,504.

Ghat Catchment

Dharma Canal

161. The canal is fed by the Dharma river. Water was admitted into the canal on 6th July and the canal ceased to flow on 28th November. The distribution of water was managed judiciously to the satisfaction of irrigators.

162. The lands under this canal are assessed partly at consolidated rates and partly at water rates. The area irrigated at water rates and the water rates assessed during the year were 445 acres and Rs. 2,224 against 394 acres and Rs. 1,920 of the previous year.

163. The area irrigated at consolidated rates was 5,227 acres and the irrigation share of the land revenue was Rs. 20,765. The total revenue from all sources after deducting Rs. 23,156 to be credited to the old work amounted to Rs.—163 (Rs. 22,993—23,156).

164. The working expenses during the year amounted to Rs. 1,688 against Rs. 4,303 of the previous year and Rs. 2,774, the average of the past three years. The year's working resulted in a loss of Rs. 1,851.

165. **Statement showing the rainfall** gauged at the sites of works classed under the head " 55 " in the Southern Circle during the kharif and rabi seasons of 1926-27 as compared with the corresponding figures of rainfall of previous year and the average of the last ten years :—

Year		Muchkundi tank	Dambal tank	Medleri tank	Madag tank	Asundi tank	Gokak Canal Dhupdal
		Inches	Inches	Inches	Inches	Inches	Inches
1926-27	Kharif ..	8·92	14·48	12·33	18·72	19·41	15·98
	Rabi ..	....	0·80	3·58	3·04	1·60	1·20
Total ..		8·92	15·28	15·91	21·76	21·01	17·18
Average of the last ten years.		14·88	15·66	16·50	25·24	20·34	18·79
1925-26	Kharif ..	4·81	12·80	8·84	18·75	13·60	8·84
	Rabi ..	0·39	4·85	7·60	12·25	10·65	5·89
Total ..		5·20	17·65	16·44	31·00	24·25	14·73

These figures show the result of the rainfall gauged at the site of the works and do not represent the rainfall figures on the whole of the catchments.

PART II

COMPRISING IRRIGATION WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT

GENERAL REMARKS

166. The whole area of irrigation under, and revenue due from works for which neither capital nor revenue accounts are kept in the Deccan and Gujarat as recorded in the register of these works are 271,621 acres and Rs. 9,16,263, respectively.

167. The following tables give by districts details of area irrigated, expenditure, revenue, etc., in respect of irrigation works on which expenditure was incurred during the year:

TABLE I

Showing the area irrigated in the different districts in the Deccan and Gujarat and the Consolidated revenue and water rate assessed and recovered during the year 1926-27 in respect of irrigation works classed under "works for which neither Capital nor revenue accounts are kept" on which expenditure was incurred during the year

Collectorate	Number of works	Area irrigated	Revenue			Remarks
			Irrigation share	Land share	Total	
		Acres	Rs.	Rs.	Rs.	
Ahmedabad ..	27	465	763	1,106	1,869	
Kaira	40	7,454	(a)26,115	19,944	46,059	(a) Includes Rs. 5,456 on account of "water rates" Direct Receipts.
Panch Mahals ..	19	1,705	(b) 3,075	1,436	4,511	(b) Includes Rs. 2,386 on account of "water rates" Direct Receipts.
Surat	27	1,412	3,446	14,253	17,699	
Broach ..	1	..	39	116	155	
West Khandesh ..	8	1,147	(c) 7,327	1,742	9,069	(c) Includes Rs. 948 on account of "water rates" Direct Receipts.
East Khandesh ..	1	371	2,854	1,151	4,005	
Nasik	29	3,920	(d) 28,866	6,899	35,765	(d) Includes Rs. 118 on account of "water rates" Direct Receipts.
Poona	1	211	(e) 957	..	957	(e) Water rates Direct Receipts.
Sholapur ..	1	593	(f) 2,656	..	2,656	(f) Water Rates Direct Receipts.
Belgaum ..	47	3,320	13,285	3,321	16,606	Works in charge of the Executive Engineer, Dharwar Irrigation Division.
Dharwar ..	74	10,476	41,866	10,467	52,333	
Kanara	30	3,062	7,774	1,943	9,717	
Bijapur	6	791	2,871	2,322	5,193	
Total ..	311	34,927	(g) 1,41,894	64,700	2,06,594	(g) Direct Receipts Rs. 12,521; Indirect Receipts Rs. 1,29,373; Rs. 1,41,894

TABLE

Showing actual expenditure and receipts for the year 1926-27 on the nor revenue accounts are kept"

Collectorate	Expenditure							
	Direct charges							
	Extensions and Improvements	Maintenance and Repairs	Establishment	Tools and Plant	Pensionary charges	Total	Share of Collection charges	Grand Total
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Ahmedabad ..	4,232	12,851	13,573	982	1,900	86,388	76	89,230
Kaira ..	3,120	22,834					2,612	
Panch Mahals	16,929	9,967					154	
Surat ..	..	20,332	4,087	295	572	26,011	345	26,360
Broach ..	..	725					4	
Thana ..	..	70	13	1	2	86	..	86
West Khandesh	1,443	5,459	1,345	227	188	8,662	666	9,328
East Khandesh	..	246	48	8	7	309	285	594
Ahmednagar ..	3,36,962	4,288	66,470	11,221	9,306	4,28,247	..	4,28,247
Nasik ..	9,696	31,215	21,775	1,174	3,048	66,908	2,879	69,787
Poona ..	..	496	165	5	23	1,21,901	29	1,21,930
	45,627 (a)	3,885	61,647	1,421	8,632		..	
Sholapur ..	..	1,999	389	66	54	2,533	80	2,613
	(b)	18	6	..	1		..	
Belgaum ..	102	19,164	28,807	1,051	4,032	1,04,827	1,328	1,11,164
Dharwar ..	8,512	32,130					4,232	
Kanara ..	37	10,092					777	
Bijapur ..	..	2,121	876	60	123	3,180	287	3,467
Total ..	4,26,660	1,77,892	1,99,201	17,411	27,888	8,49,052	13,754	8,62,806

(a) For work done by the Executive Engineer Special Irrigation Division.
(b) Do. do. do. Malsiras Division.

II

Irrigation works in the Deccan and Gujarat "for which neither Capital referred to in Table I

Actual Receipts							
Direct Receipts			Indirect Receipts, share of consolidated revenue	Grand Total, Direct and Indirect Receipts	Less Refunds of Revenue	Gross Receipts less Refunds	Remarks
Water rates from Irrigation	Miscellaneous	Total Direct Receipts					
10	11	12	13	14	15	16	17
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
....	842	842	763	1,605	....	1,605	
5,456	9,915	15,371	20,659	36,030	....	36,030	
2,386	4,607	6,993	689	7,682	....	7,682	
....	..	..	3,446	3,446	....	3,446	
....	..	..	39	39	....	39	
....	..	..	....	..	....	....	
948	..	948	6,379	7,327	....	7,327	
....	..	..	2,854	2,854	....	2,854	
....	..	..	....	..	....	....	
118	..	118	28,748	28,866	....	28,866	
957	..	957	....	957	....	957	
2,656	..	2,656	....	2,656	....	2,656	
....	..	..	13,285	13,285	....	13,285	
....	453	453	41,866	42,319	....	42,319	
....	..	..	7,774	7,774	....	7,774	
....	..	..	2,871	2,871	....	2,871	
12,521	15,817	28,338	1,29,373	1,57,711	....	1,57,711	

DETAILED REPORTS BY DIVISIONAL OFFICERS

WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT

Ahmedabad, Kaira and Panch Mahals and Surat and Broach Divisions

Khari Sluices

168. This year on account of very good rainfall from the beginning of July to the last week of September, there was more than enough water in the Khari river and the river bed was completely saturated so that enough supply was always available in the river for the transplanted rice up to 15th November. All the reservoirs coming under the Khari sluices system were full, and water was utilized in the kharif, rabi and hot seasons. An area of about 134 acres transplanted in the Kalambandhi villages, not assessed to himayat was also irrigated from the Canal water.

169. The sluices were maintained in good order at a cost of Rs. 7,565.

170. The miscellaneous revenue amounted to Rs. 4,021 against Rs. 761 of the previous year. The increase was due to the sale of Babul trees.

171. The following table compares the area irrigated and the assessment levied with the average of the previous three years :—

	Average		1926-27	
	Area	Revenue after deducting remissions	Area	Revenue after deducting* remissions
	Acres	Rs.	Acres	Rs.
I. Irrigation above Kalambandhi villages (of Mahij, Bidaj and Lali).	206	534	645	4,009
II. Irrigation from tanks fed by the river Khari :—				
Goblaj	305	3,089	682	4,099
Galki	150	198	678	704
III. Irrigation from the Khari sluices proper (*i.e.*, 10 Kalambandhi villages).	6,343	19,326	6,440	38,852
Total ..	7,004	23,147	8,445	47,664

* The revenue is consolidated.

172. The assessment under the Khari sulices proper, *i.e.*, of the "Kalambandhi villages," being consolidated, the average rates per acre for land and water respectively were as under :—

	Irrigation share	Land share	Total consolidated
	Rs. a. p.	Rs. a. p.	Rs. a. p.
Government land	0 7 11	4 6 4	4 14 3
Alienated land	0 8 4	1 7 4	1 15 8

Muvalia Tank

173. This tank which is the largest in the Panch Mahals filled to its full supply level owing to good rainfall, the water having risen to R.L. 139·15. As the monsoon failed in the latter part of the year and the cultivators, who grew late kharif, stood in need of water, necessary supply was given to mature their crops. As the tank was full, the cultivators were persuaded to irrigate more land and they did so with the co-operation of the Department, taking full advantage of the water in the tank, the result being that the record figure ever attained since the construction of the tank was reached during the year. Water was given to the Kharodi village in miles 9 and 10 of the left bank canal for the first time in the life of the canal. The areas irrigated in the kharif and rabi seasons were 122 and 1,060 acres respectively making a total area of 1,182 acres and gross assessment of Rs. 3,645 against 823 acres and Rs. 2,622 respectively, the averages of the last three years.

174. The miscellaneous revenue derived on this tank from all sources amounted to Rs. 3,867 against Rs. 1,815 of the preceding year. Out of this amount Rs. 3,200 were realized for the 4 million cubic feet of water supplied to the B. B. and C. I. Railway Company's Loco Shops at Dohad. The tank with its dam, canals and distributaries was maintained in efficient condition at a cost of Rs. 4,479.

175. Improvements to two tanks in the Ahmedabad Division and eight tanks in the Kaira and Panch Mahals Division and repairs to ten tanks in the Ahmedabad, 36 tanks in the Kaira and Panch Mahals and 38 tanks in the Surat and Broach Divisions were executed during the year at a total cost of Rs. 17,866 and Rs. 42,350 respectively.

176. The area irrigated and revenue derived from the old irrigation tanks and bunds were as under :—

Name of Division	Area Irrigated	Revenue		
		Irrigation share	Land share	Total net consolidated assessment
	Acres	Rs.	Rs.	Rs.
Ahmedabad	14,100	20,803	44,938	63,831
Kaira	1,578	84	2,964	3,048
Panch Mahals	365	1,083	1,436	2,519
Surat	1,186	3,959	17,365	21,324
Broach	795	1,357	4,317	5,675
Total ..	18,024	27,376	71,020	96,397

177. The drainage channels in the Ahmedabad, Kaira and Panch Mahals and Surat and Broach Divisions were maintained in good order at a cost of Rs. 7,288, 4,146 and 6,381, respectively.

178. The miscellaneous receipts realised during the year from the old tanks and drainage channels were Rs. 23,162.

Mutha Canals Division

Khamgaon Tank

179. This partially completed famine tank received a very meagre replenishment from rainfall by the end of the monsoon season, nor could it be filled from the Mutha Right Bank Canal, as the demand for monsoon water was keen on the canal. The available supply was issued for irrigating rabi crops measuring 211 acres, which brought in a gross assessment of Rs. 968, the corresponding figures for the previous year being 268 acres and Rs. 1,389 respectively.

180. The sub-joined table gives the area irrigated and the consolidated assessed revenue for the irrigation works during the year compared with the average of the past three years :—

Period	Area irrigated	Net consolidated revenue		
		Irrigation share	Land share	Total
	Acres	Rs.	Rs.	Rs.
For the year 1926-27 ..	673	4,412	1,284	5,696
Average	679	4,390	1,284	5,674

181. No expenditure was incurred on these works during the year under report.

Nasik Irrigation Division

Khirdi Sathe Tank

182. The management of this small tank was taken over by this department on the 15th July 1917. The tank was dry from the 8th May. There was no irrigation during the year as practically no water was stored. The replenishment commenced on the 11th July and the water level rose to R. L. 218·30 with a storage of 4·40 million cubic feet on the 12th September against the designed storage of 91·05 million cubic feet. The tank ran dry on the 24th November.

183. The water supply to the various bandharas continued to be generally inadequate, with the result that agricultural operations suffered and remissions amounting to Rs. 35,094 were granted.

184. The sub-joined table compares the year's results as regards area irrigated and consolidated revenue, etc., with the average of the past three years :—

Period	Area irrigated	Net consolidated revenue (after deducting remissions)		
		Irrigation share	Land share	Total
	Acres	Rs.	Rs.	Rs.
For the year 1926-27 ..	25,521	1,68,981	54,765	2,23,746
Average	25,984	1,67,258	50,751	2,18,009

185. The expenditure during the year on these works was Rs. 41,395, exclusive of charges for establishment and tools and plant.

East Khandesh Division

186. The area irrigated and revenue derived from each of the old works are as shown below :—

Name of work	Area irrigated	Revenue			Remarks
		Irrigation share	Land share	Total	
	Acres	Rs.	Rs.	Rs.	
1. Patonda bandhara and channel.	129	1,043	481	1,524*	* Remission of water rate was sanctioned during the year.
2. Toli channel ..	62	732	175	907	
3. Amalner bandhara and channel.	371	2,864	1,151	4,005	

187. The expenditure incurred was Rs. 246.

West Khandesh Division

Talwada Tank

188. The rainfall gauged in the catchment at Talwada was 10·16 inches against 13·12 inches of the preceding year. The year commenced with 0·67 million cubic feet of water in the tank which dried up on 18th April. Practically no replenishment was received during the monsoon and as there was no water above the sill throughout the year there was no irrigation. A miscellaneous revenue of Rs. 50 was realized by leasing the land in the tank basin for cultivation and by the sale of grass. The tank was maintained at a cost of Rs. 663.

189. The area irrigated and revenue derived from the old works were as shown below :—

	Area irrigated	Revenue			Remarks
		Irrigation share	Land share	Total	
	Acres	Rs.	Rs.	Rs.	
1926-1927	8,799	58,408	11,448	69,856	
Average	8,053	60,406	11,418	71,824	

190. The outlay on these works was Rs. 6,239 as against Rs. 6 014 the average of the past 3 years.

Satara Division

Sap Bandhara and Borgaon Dam

191. The total area irrigated was 93 acres and the consolidated assessment was Rs. 966. The irrigation share of the revenue amounted to Rs. 580 and the balance of Rs. 386 represented the land assessment.

Sholapur Division

Wadshivne Tank

192. The level of water in the tank on 1st April was only 1·88 feet over the sill of the outlet. The tank went dry on 20th May. Between 26th June and 2nd July a replenishment of 10 feet was received in the tank. Further replenishment of 2·11 feet was received in September. With these replenishments a total water level of 11 feet was available for use on 30th September, and was utilized for the rabi crops. The waste-weir did not overflow.

193. The mean rainfall gauged at 2 stations in the catchment area of 14·5 square miles from 1st May 1926 to 30th April 1927 was 16·49 inches and the total replenishment was 92·67 million cubic feet.

194. The area irrigated was 593 acres against 613 acres the average of the preceding three years. This shows a decrease of 3 per cent. which was due to insufficient storage available in the tank.

195. The gross revenue assessed, was Rs. 3,088 against Rs. 4,291 the average of the preceding three years. This shows a decrease of 28 per cent. which was due to insufficient storage in the tank.

196. The expenditure incurred on maintenance and repairs was Rs. 1,364 against Rs. 1,368 the average of the preceding 3 years.

Bijapur Division

197. There are in all 13 tanks in the Bijapur Division. The lands under these tanks are assessed at consolidated rates. The total area irrigated and the irrigation share of the land revenue were respectively 1,091 acres and Rs. 3,844 against 1,100 acres and Rs. 3,844 of the previous year and 873 acres and Rs. 3,801, the average of the past three years.

Ratnagiri Division

198. There are only four irrigation tanks in the Malwan Sub-Division. The area irrigated by them and the irrigation share of the land revenue were respectively 1,273 acres and Rs. 4,142 against the same figures of the previous year and 1,277 acres and Rs. 4,154, the average of the past three years.

Dharwar Irrigation Division

199. There are about 4,500 irrigation tanks in the Dharwar Irrigation Division which comprises the Dharwar District and parts of Belgaum and Kanara Districts. Most of these tanks have no proper arrangement for waste-weir and outlet. 101 of these tanks were repaired during the year at a total cost of Rs. 59,996.

200. During the year the area irrigated and the irrigation share of the land revenue were 88,384 acres and Rs. 3,00,800 respectively as compared with 92,708 acres and Rs. 3,06,910 of the previous year and 96,504 acres and Rs. 2,84,611, the average of the past three years. The area irrigated during the year under report was less as compared with the figures of the previous year and of the average. The irrigation share was however more than the average and this is due to the fact that during 1923-24 and 1924-25, large remissions to the extent of Rs. 66,419 and Rs. 17,086 respectively were granted by the Revenue Department. The remissions during the year under report amounted to Rs. 3,070 only.

Revenue Report of Irrigation Works in the Bombay Presidency excluding Sind for 1926-1927 : Review of.—

GOVERNMENT OF BOMBAY.

PUBLIC WORKS DEPARTMENT.

Resolution No. P. 19.

Bombay Castle, 21st September 1928.

Letter from the Superintending Engineer, Deccan Irrigation Circle, No. 5426, dated 30th September 1927.

Submits the Irrigation Revenue Report for his Circle for 1926-27 and states that the general remarks will follow.

Letter from the Superintending Engineer, Northern Circle, No. R.—5, dated 5th October 1927.

Submits the Irrigation Revenue Report for his Circle for 1926-27 together with two statistical statements and makes remarks.

Letter from the Superintending Engineer, Deccan Irrigation Circle, No. 6288, dated 14th November 1927.

Submits the general remarks in connection with the Irrigation Revenue Report for his Circle for 1926-27 and makes remarks.

Letter from the Superintending Engineer, Central Circle, No. R.-5/6846, dated 18th November 1927.

Submits the Irrigation Revenue Report for his Circle for 1926-1927 and intimates that the general remarks will follow.

Letter from the Superintending Engineer, Southern Circle, No. R. 5/S. C., dated 3rd January 1928.

Submits the Irrigation Revenue Report for his Circle for 1926-27.

Letter from the Superintending Engineer, Central Circle, No. R.-5/204, dated 19th January 1928.

Submits the general remarks for his Circle.

Letter from the Accountant General, Bombay, No. Bk. 23-1/2048, dated 17th February 1928.

Forwards two statistical tables in connection with Part II of the Irrigation Revenue Report, Deccan and Gujarat, for 1926-27, and reports the figures of total area under irrigation and total revenue due from works for which neither capital nor revenue accounts are kept.

RESOLUTION.—The Irrigation works dealt with in this report fall into two categories, *viz.*—

(*i*) Tanks and canals for which capital and revenue accounts are kept.

(*ii*) Small tanks, bandharas and drainage channels for which neither capital nor revenue accounts are kept.

The works included under (*i*) above are described in detail in Part I of the report. The works mentioned under (*ii*) are small and numerous and a brief general account of them is given in Part II.

2. The total capital outlay on tanks and canals for which capital and revenue accounts are kept up to the end of the year under review was Rs. 9,74,48,457. The Nira Right Bank Canal, the most important irrigation work under construction in the Deccan is nearing completion. A sum of about Rs. 15¼ lakhs was spent on the project during the year.

3. Excluding an area of 8,843 acres on which consolidated water and land assessment is levied, the area irrigated was 263,321 as against 289,823 in the previous year showing a decrease of 26,502 acres. The decrease occurred mainly in the Deccan Irrigation Circle and was due to less monsoon and rabi irrigation on ordinary applications owing to timely rainfall in the canal tracts.

4. The gross assessed revenue amounted to Rs. 35,61,623 as against Rs. 31,05,708 in the previous year and Rs. 23,61,797 the average of the previous 10 years.

5. The unrealised balance at the close of the year amounted to Rs. 15,99,423. A portion of this amount has since been recovered and steps have been taken to recover the balance.

6. The working expenses amounted to Rs. 15,30,460 showing a decrease of Rs. 34,605 from the figure for the previous year (Rs. 15,65,065).

7. The resulting net revenue for the year was :—

	Rs.
(1) On the basis of assessment	20,31,163
(2) On the basis of realization	15,03,879

as compared with Rs. 15,40,643 and Rs. 12,60,626 respectively during the previous year.

8. The statement embodied in paragraph 13 of the report exhibits the financial results, based on actual figures, of the more important irrigation works in operation in the Presidency proper. The Ekruk Tank shows a return of more than 8 per cent. on the capital outlay. The Nira Left Bank Canal including the Shetphal tank, the Mutha, Pravara and Godavari Canals yielded a return of 5·37, 4·36, 1·58 and 0·90 per cent. respectively during the year.

9. The total area irrigated by works for which neither capital nor revenue accounts are kept was 1,57,670 acres and the gross revenue obtained was Rs. 5,16,926. The total expenditure incurred was Rs. 8,62,806. Deducting from this Rs. 4,19,976 spent on the Visapur tank and Rs. 1,21,212 incurred in the Special Irrigation Division, the net amount spent on improvement and repair of 311 small tanks and bandharas (out of a total on the list of over 11,000) was Rs. 3,21,618. The net revenue from non-capital works amounted to Rs. 1,62,555.

gitized with financial assistance from th
Government of Maharashtra
on 22 July, 2017

10. Copies of the report and of this review should be forwarded to the Government of India and the Secretary to the High Commissioner for India.

By order of the Governor in Council,

T. A. ANDREW,
Deputy Secretary to Government.

To

The Revenue Department, Secretariat.
The Finance Department, Secretariat.
The Commissioner in Sind.
The Commissioner, Northern Division.
The Commissioner, Central Division.
The Commissioner, Southern Division.
The Commissioner of Revenue Accounts.
The Director of Agriculture.
The Director of Information.
The Chief Engineer in Sind.
The Chief Engineer, Lloyd Barrage and Canals Construction.
All Superintending Engineers of Circles.
The Accountant General, Bombay.
The Executive Engineers in charge of irrigation works in the Deccan and Gujarat.
* The Secretary to the High Commissioner for India.

* By letter.

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